

MICHAEL BOYD

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QUALIFICATIONS PROFILE

Solutions-oriented **Engineer** with a proven track record of effective **component manufacturing development engineering** in the microelectronics, telecommunication, semi-conductor, and hard drive industry.

- In-depth knowledge and skill developing innovative components and automation applications to increase the productivity of manufacturing operations.
- Highly skilled analyst, able to quickly identify and leverage alternative components and manufacturing methods to expedite the cost-efficient completion of projects.
- Effective troubleshooting skills and ability to develop and implement resolutions to root cause issues.
- Skilled trainer and influential leader, with experience assembling, motivating and supervising productive, cohesive teams.
- Currently hold Secret Security Classification.

CORE COMPETENCIES:

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| • Materials Acquisition | • Testing Software | • Cost Reduction |
| • Strategic Planning | • Development | • Inventory Optimization |
| • Project Management | • Component QA & Testing | • Team Leadership |

TECHNICAL BACKGROUND

Platforms: UNIX, Windows, Embedded C
Languages: Unix and Windows C/ C++, Visual C, Basic, Visual Basic, FORTRAN, FLEXTRAN, HPL, Machine, Assembly code
Digital Logic: PROM, EEPROM, PAL, PLD, and Micro-controller programming and verification
Tools: Agile, Oracle, AREV Relational Database for ECO & MCO, procurement and inventory control, EAGLE and ORCAD circuit design.
Testing: Scanning Electron Microscope, X-Ray Fluorescence spectroscopy, X-Ray Diffraction, Fourier Transform IR spectroscopy, IBM Optical Defect Analyzer, Mass Spectroscopy, Atomic Force Microscope, Magnetic Force Microscope, Spectrum Analyzer, Oscilloscope, Arbitrary Waveform Generator, Disk Certification Tester (MC900, MG250 Certifier, PS5100).

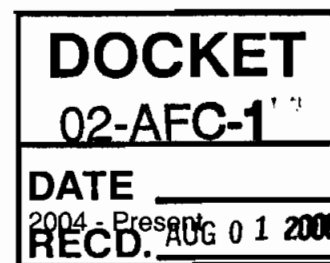
PROFESSIONAL EXPERIENCE

ACCURAY, INC., Sunnyvale, CA

Senior Manufacturing Engineer

Responsible for the manufacturing of the CyberKnife an entirely new approach to radiosurgery, that incorporates a compact, lightweight linear accelerator mounted on a robotic arm, the CyberKnife provides the surgeon flexibility in targeting. Advanced image guidance technology tracks patient and target position during treatment, ensuring accuracy without the use of an invasive head frame. Maintain developed and implemented procedures to ensure optimal implementation of manufacturing processes.

- ♦ Recommends, develops, and implements product design changes to improve reliability, quality, manufacturability, and cost on existing products.
- ♦ Verifies the effectiveness of design changes and improvements to the Cyberknife system and subsystem components; assesses and evaluates changes to product reliability and quality.



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- ◆ Works intimately with New Product Development (NPD) team to ensure new product features meet quality, reliability, manufacturability, and cost requirements. Manages the transfer of new products to production.
- ◆ Develops and implements essential elements of a product reliability program for the CK System and subsystem components.
- ◆ Participates in high-level negotiations with supply partners and vendors to assess performance and resolve technical, manufacturing and quality issues.
- ◆ Ownership of procedures, processes and documentation used in the manufacture of the Cyberknife system and subsystem components; works with the manufacturing leadership team to develop and sustain best-in-class standards, processes and procedures.
- ◆ Trains and mentors junior members of the engineering team.

SOFTWARE QUALITY ASSOCIATES, Los Gatos, CA

2002

Component Engineer, Contractor

Provided technical support to company client Brooktrout Technology an \$80 million supplier of innovative hardware and software platforms to enable the development of New Network™ applications, systems and services. Maintained current Approved Vendor List (AVL) with all requirements, establishing protocol to ensure users' access to complete, up-to-date Approved Materials List (AML) and due notice of parts pending obsolescence. Reviewed and approved Part Number Request forms for all vendors.

- ◆ Ensured availability of key materials by developing process to track single-sourced materials for procurement purposes.
- ◆ Effectively identified alternate materials for key items pending obsolescence to support development engineering, sustaining engineering and procurement staff.
- ◆ Increased quality of available materials by performing in-depth component analysis to identify root causes of product failure.
- ◆ Strategically identified and leveraged supplies of alternate components leading to a 20-30% reduction in procurement costs.
- ◆ Accurately validated programmable parts to ensure compatibility with customer systems.

ASPECT COMMUNICATIONS, San Jose, CA

1999 - 2002

Component Engineer, Manufacturing Engineering

Maintained current AVL for a leading provider of business communications solutions, approving Item Request Forms (IRF) for the AML and notifying personnel of components pending obsolescence. Identified alternate components, validating programmable parts to ensure compatibility. Developed and implemented procedures to ensure optimal levels of parts inventory to prevent production gaps.

- ◆ Designed and implemented process to identify single-sourced material for Procurement to ensure optimal inventory levels.
- ◆ Provided key input to development engineers, sustaining engineers and procurement staff in the resolution of component issues revealed by thorough component analysis.
- ◆ Expertly used Agile database to create and submit Engineering Change Orders (ECO) and Manufacturer Change Orders (MCO).
- ◆ Accurately identified alternate components for strategic cost reduction.

THE WATTS STOPPER, INC., Santa Clara, CA

1999

Test Engineer, Advanced Manufacturing

Provided technical expertise to manufacturer of energy efficient occupancy sensors incorporating ASIC and Microcontroller-based technologies. Created and modified test fixture for optical electronic, ASIC, and Microcontroller-based product characterization. Developed applications to automate electronic test apparatus performing the acquisition, logging, and reporting of critical data. Accurately determined and reported root causes of returned goods issues through extensive failure analysis.

PHASE METRICS, Fremont, CA

1996 - 1998

Engineer/Scientist, Customer Support and Standards

Served as key member of team performing quality control to new products of a supplier of hard disk testing equipment such as media certifiers, fly height testers, and optical inspection equipment. Designed and fabricated testing standards for application on magnetic media, utilized for certification, glide, and optical inspection. Developed system test plans and final acceptance test procedures for optical inspection equipment. Trained field engineering and manufacturing technicians to expedite transition of new products into production. Provided customer training and demonstration of new products.

- ◆ Programmed in (Visual Basic)-Design and fabricated standards disks for calibration and correlation of optical inspection to piezo-glide and certification errors.
- ◆ Performed electronic trouble shooting to discover design flaws in certification tester, and optical inspection equipment.
- ◆ Prepared and published paper on MR Glide using the MR transducer to detect and classify defects on the media surface.
- ◆ Performed ORCAD circuit design.
- ◆ Operated various test equipment including scanning tunneling microscope or Atomic Force Microscope (AFM), Magnetic Force Microscope (MFM), spectrum analyzers, oscilloscopes, arbitrary waveform generators, etc.
- ◆ Utilized various disk testers including MC900, MG250 certifiers, IBM ODA, and PS5100.

QUALIFIED PARTS LABORATORY, (Santa Clara, CA)

1993 - 1996

Test Engineer, Electronics Characterization

Supervised environmental laboratory to ensure accurate testing and test component development. Developed electronic device characterization test fixtures for QML certified company specializing in qualifying parts for government, industrial and space applications. Preparation of test plans according to specific military application e.g. MIL-STD-883, 202, etc. Designed automation software to acquire, log, and report critical data. Developed test plans in accordance with military application specifications. Resolved electronic issues and identified root causes.

- ◆ Expertly performed circuit modeling, test fixture fabrication, high voltage dielectric withstand and insulation resistance testing, and ORCAD circuit design for RF, digital, analog and mixed signal components.
- ◆ Served as LAN and Database Administrator, ensuring data accuracy and continuous network connectivity.
- ◆ Served as Residual Gas Analysis Certification Engineer, utilizing mass spectroscopy to identify internal water vapor content of components to military specifications

SANTA BARBARA RESEARCH CENTER, Goleta, CA

1982 - 1991

Senior Development Engineer

Monitored and improved IR-detector fabrication process for a subsidiary of Hughes Aircraft Co. Developed software for the analysis of data collected from automated data acquisition systems. Expedited the data transfer between Mac, HP, IBM, and VAX computer systems by developing flexible interfaces. Performed optical and electrical characterization of a wide variety of insulator, superconductor, and semiconductor materials.

- ◆ Developed software for the analysis of data collected from automatic data acquisition systems. Languages: Fortran, UNIX "C", FLEXTRAN. HPL, basic, and assembly code.
- ◆ Created interfaces for transfer of data between Mac to HP, IBM, and VAX computer systems.
- ◆ Implemented statistical process control (SPC) techniques in the material growth and detector array fabrication process line.
- ◆ Designed and developed of optical and electrical characterization apparatus. Analytic results from these apparatus were published in scientific journals (See Publications)-Optical and electrical characterization of a wide variety of insulator, superconductor, and semiconductor materials utilizing cryogenic microprobe technology of IR detectors, MISFET, Focal Plane Gated Arrays (FPGA) and other semiconductor devices.
- ◆ Performed X-ray diffraction, X-ray Fluorescence Spectroscopy, scanning electron microscope (SEM) analysis including Wavelength and Energy Dispersive (WDX & EDX) analysis.

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EDUCATION / TRAINING

Bachelor of Science Degree • Major in Physics
Concentration in Electronics, Microprocessor Design and Material Sciences
University of California, Santa Barbara, California

Graduate Studies in Materials Sciences
Independent Research in IR-Detecting Cathode Luminescence Spectral Radiometry
University of California, Santa Barbara, California

TECHNICAL PUBLICATIONS

M.E. Boyd, Xiaopeng Xu, MR Glide Inspection for Hard Disk Defect Detection, *The International Society for Optical Engineering Proceedings of SPIE, Surface Characterization for Computer Disks, Wafers, and Flat Panel Displays*, 28 January 1999, Vol. 3619, pp53. <http://www.calfree.com/SPIEdoc.html>

M.E. Boyd, Xiaopeng Xu, and Brian Vu. A Study of MR Glide Signals Using Precision Defects, *IDEMA Insight on Emerging Technologies*, September/October 1998 Vol. XI, No.5, pp7.

S.M. Johnson, D.R. Rhiger, J.P. Rosbeck, J.M. Paterson, S.M. Taylor, **M.E. Boyd**. Effects of Dislocations on Performance of LWIR Hg_{1-x}Cd_xTe PV Detectors, *Proceedings of the IRIS Specialty Group on Infrared Detectors National Institute of Standards and Technology*, August 13, 1991 (Best Paper Award).

M.E. Boyd, E.L. Divita, M. Holtzman, B. Baumgratz, The Effects of Total Dose Gamma Radiation on Tolerant InSb Device Characteristics, *Proceedings of the IRIS Specialty Group on Infrared Detectors National Institute of Standards and Technology*, 1988 Vol. II pp103-204.

C.E. Jones, **M.E. Boyd**, W.H. Kunkel, S. Perkowitz, R. Braunstein, Noncontact electrical characterization of Hg_{1-x}Cd_xTe, *Journal of Vacuum Science Technology, A* (4), Jul/Aug 1986 pp2056-2060

PROFESSIONAL AFFILIATIONS

International Society for Optical Engineering (SPIE) – 1999 to Present
Union for Concerned Scientists (UCS) – 1999 to Present

COMMUNITY (VOLUNTEER) ACTIVITIES

1/80 - 12/92 Director (founding) President Let Isla Vista Eat, Inc. (LIVE) Non-profit Corp.
12/82 - 6/89 President (elected)-Isla Vista Community Council/Municipal Advisory Council
12/84 - 12/92 Director (elected)-Isla Vista Recreation & Park District
12/89 - 12/91 Director -First VP California Recreation & Park District Association
12/89 - 12/91 Director - Santa Barbara County Special Districts Association
12/89 - 5/93 Director (elected) Goleta West Sanitary District
12/96 -12/98 Commissioner Sunnyvale Housing & Human Services Commission
9/99 - Present President (founder) CALifornians for Renewable Energy, Inc. (CARE) non-profit

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Date: 7/31/2005 10:42:49 PM
Subject: 02-AFC-1 - Testimony of Michael E. Boyd on the Transmission Interconnect of the Blythe Energy LLC Project, Phase II

CC: <docket@energy.state.ca.us>, <jgeesman@energy.state.ca.us>, <hkalleme@energy.state.ca.us>, <sharris@energy.state.ca.us>, <jwilson@energy.state.ca.us>, <pao@energy.state.ca.us>, <gshean@energy.state.ca.us>, <bpfanner@energy.state.ca.us>, <ldecarlo@energy.state.ca.us>, <rlooper@spellc.com>, <sgalati@gb-llp.com>, <pboucher@greystone-consultants.com>, <tlcameron@msn.com>, <mdjoseph@adamsbroadwell.com>, <lnelson@cityofblythe.ca.gov>, <chull@cityofblythe.ca.gov>, <jmiller@caiso.com>, <wolfe@i10net.com>